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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,978	04/10/2001	Rainer Uhl	740105-70	7149
22204	7590	02/09/2004	EXAMINER	
NIXON PEABODY, LLP			FINEMAN, LEE A	
401 9TH STREET, NW			ART UNIT	
SUITE 900			PAPER NUMBER	
WASHINGTON, DC 20004-2128			2872	

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/828,978

Applicant(s)

UHL, RAINER

Examiner

Lee Fineman

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17-26, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-26, 29-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 November 2003 has been entered in which claim 17 was amended and claims 27-28 were cancelled. Claims 17-26, 29 and 30 are pending.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17-19, 21-22, 24, 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle, U.S. Patent No. 4,758,088 in view of Uhl, German Patent No. DE 4228366 A1.

Regarding claim 17, Doyle discloses a microscope (fig. 3) comprising a light source (not shown but producing beam 78), an objective lens (34) positioned for focusing the light beam on the specimen (80) area for illumination and a reflector means (84) to reflect the light back through the illuminated area of the specimen, and a beam splitter (column 4, lines 10-11) for reflecting light from the light source into the objective lens (34). Doyle discloses the claimed

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invention except wherein the light source is adapted to allow a change between different wavelengths for producing, alternately, transmitted light illumination and epi-fluorescence illumination and wherein the beam splitter is dichroic and essentially impermeable to said epi-fluorescent excitation light and essentially permeable with respect to fluorescent light and light for said transmitted light illumination. Uhl teaches in fig. 1, a illuminator that is adapted to allow a change between different wavelengths for producing, alternately, transmitted light illumination and epi-fluorescence illumination (abstract) and includes a dichroic beam splitter (9) which is essentially impermeable to said epi-fluorescent excitation light and essentially permeable with respect to fluorescent light and light for said transmitted light illumination (fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the visible light source of Doyle to become an illuminator capable of transmitted light illumination and epi-fluorescence illumination and make the beam splitter a dichroic beam splitter as suggested by Uhl to provide a more flexible system with another mode for viewing sample characteristics.

Regarding claims 18-19, 21-22, 24, 26 and 30, Doyle further discloses a reflector means (84) comprising a body having a concave surface and is hemispherically-shaped with an aperture for allowing particles flung from the specimen by action of the light beam to be captured, which reflects essentially all of the illumination the light beam, which includes fluorescent light, and at least a portion of the concave surface is reflective to at least a portion of the illumination light to produce oblique illumination of the specimen (fig. 3) and a transparent holder (4) for supporting the specimen on a surface facing away from the objective lens (34)

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4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle in view of Uhl as applied to claim 17 above and further in view of Allingham, U.S. Patent No. 3,497,377.

Doyle discloses the claimed reflector means except for an explicit written teaching that the body is transparent. Allingham teaches that a reflector means, or more commonly, a mirror is a surface having transparent characteristics with a backing of high reflectivity and opaqueness (column 1, lines 32-35). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the reflector of Doyle in view of so as to include a body of transparent material to protect the reflective surface of the reflector means from damage.

5. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle in view of Uhl as applied to claim 17 above and further in view of Lanni et al., U.S. Patent No. 5,801,881.

Regarding claims 23, 25, Doyle in view of Uhl as applied to claim 17 above discloses the claimed invention except for use of an immersion fluid to optically couple the holder to the reflector means and to optically couple the objective lens to the specimen. Lanni et al. teach the use of an immersion fluid (not numbered) in figure 5 to optically couple a transparent holder (4) to the reflector means (16) and to optically couple the objective lens (8) to the specimen (2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Doyle in view of Uhl to include immersion fluid to reduce losses and permit better image quality.

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6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle in view of Uhl as applied to claim 17 above and further in view of Pinkel et al., U.S. Patent No. 5,982,534

Doyle in view of Uhl as applied to claim 17 above discloses the claimed invention except for at least a portion of said reflector mean including a nonreflecting surface for transmitting laser light being emitted from outside a boundary surface of the reflector means to a reflecting boundary surface to the surface of the specimen that reflects the laser light at an angle such that total refraction of the laser light occurs at the boundary surface to the surface of the specimen by which fluorescent excitation of the specimen occurs. Pinkel et al. teach a reflective means being a concave, hemispherically shaped body (fig. 2, 205, 207 and column 11, lines 1-13) and at least a portion of said reflector mean including a nonreflecting surface (123) for transmitting laser light (103, column 7, line 57) being emitted from outside a boundary surface of the reflector means to a reflecting boundary surface to the surface of the specimen that reflects the laser light at an angle such that total refraction of the laser light occurs at the boundary surface to the surface of the specimen by which fluorescent excitation of the specimen occurs (column 7, lines 22-30 and 49-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Doyle in view of Uhl to have a laser in the manner of Pinkel et al. to provide a more flexible system and enable multi-modal viewing of the sample.

### ***Response to Arguments***

7. Applicant's arguments with respect to claim 17-26, 29 and 30 have been considered but are moot in view of the new ground(s) of rejection.

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8. Applicant's arguments filed 21 November 2003 have been fully considered but they are not persuasive.

Applicant argues that Doyle discloses use of a semi-transparent beam splitter, which teaches away from using a dichroic beam splitter. The examiner respectfully disagrees. A beam splitter, whether semi-transparent or dichroic, is known to one skilled in the art as a device to direct light through the system. Therefore, as functional equivalents, use of one kind of beam splitter does not teach away from use of the other, it only specifically defines in what manner the light is directed (i.e. intensity vs. wavelength).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-23124. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAF  
February 2, 2004

  
**MARK A. ROBINSON**  
**PRIMARY EXAMINER**